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ABSTRACT

This report describes and assesses the effectiveness of activities conducted by the University of Toledo (Ohio)/Springfield Local Schools Teacher Corps Project. On-site staff development activities provided for elementary and secondary school teachers are described: (1) two credit-bearing courses on alternative education programs for mainstreamed students and testing for reading and mathematics skills; and (2) workshops addressing computer-managed strategies in mathematics instruction, content area reading, and individualized instruction. Assessment instruments and participant responses are discussed. Six conclusions regarding participant satisfaction with the staff development activities are reported. Tables are appended which show course and workshop responses to the evaluation instruments. (FG)

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Teacher Corps * Program '79
The University of Toledo/
Springfield Local Schools

AN ASSESSMENT OF SUMMER-FALL, 1981, STAFF DEVELOPMENT ACTIVITIES

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Introduction

Activities to be implemented during Year Three of The University of Toledo/Springfield Local Schools Teacher Corps Project are described in the "Joint Project Proposal, Third Year Continuation Grants" (March, 1980, pp. 60-65). The activities include: (1) a continuing LEA staff development program, (2) a continuing master's degree/Ohio teacher certification program as well as community training for Project Interns, and (3) continuing community-based education.

The implementation of university courses and school workshops was a principal locus of staff development during the first six months of Year Two. The courses and credit and non-credit workshops constituted a part of intern training as well.

This report describes staff development university courses and district building workshops, outlines assessment procedures, and discusses assessment findings and conclusions.

General Characteristics

The staff development improvement model is described in the 1980 Continuation Amendments (pp. 72-76). General characteristics of courses and building workshops are the following:

1. Each course and workshop uses identified Subject Area Goals and and Objectives as point of departure for planning.
2. Courses address more complex issues related to larger numbers of goals/objectives which have higher district-wide interest.
3. Workshops address less complex issues related to smaller numbers of goals/objectives which have lesser district-wide interest.
4. Each is offered on-site.
5. Each is developed collaboratively with instructor by identified teacher committee.
6. Courses utilize CBTE model for design and syllabus.

7. Courses meet UT Graduate School requirements for credit.

8. Workshop plans identify specific objectives.

9. Each limited to thirty participants.

10. Syllabi/Plans include these elements: identified needs, goals/objectives, activities and materials, and evaluation schema.

11. Each provides for school/classroom implementation.

12. Each is scheduled to accommodate optimum participation.

As provided in the 1980 Continuation Proposal (p. 75):

> The courses will include the goals and objectives originally written by the Subject Area Committees. However, it is expected that these objectives will be refined and expanded, that varied and motivating treatments will be planned, that products which are classroom applicable will be selected and that criterion referenced assessment and performance evaluation will be planned. The intent is to implement Competency Based Education in all coursework.
>
> The workshop format need not adhere to graduate course standards or CBTE. Nonetheless, the objectives, judged to be appropriate for Workshop delivery, will also be refined and expanded, motivating experiences will be cued to objectives and appropriate time frames, in terms of the number of hours necessary to accomplish the objectives, will be assigned. Workshops may vary from one half-day in-service sessions to six after school or Saturday sessions.

In addition, a district "workshop" (for university credit) was implemented which incorporated characteristics 1-2, 4, 6-7, 10-12 above.

Course and Workshop Elements

Prioritized goals and objectives for staff development in five subject areas were a principal product of the needs assessment and other planning carried out in Year One of the project. The five subject areas are: (1) Basic Skills/Diagnostic-Prescriptive Instruction in Reading, (2) Basic Skills/D-P Instruction in Mathematics, (3) School Climate, (4) Least Restrictive Alternative Schooling for the Handicapped, and (5) Education That is Multicultural (1980 Continuation Amendments, pp. 90-105).

Courses. During the university's Fall Quarter, two courses for credit were offered to address identified goals and objectives. The two

courses were:

1. Alternative Educational Programs for "Mainstreamed" Children and Youth;

2. Using Educational Testing in the Classroom.

"Mainstreaming" Course. The "mainstreaming" course was the second of a two-part "foundations and methods" series, and it addressed the following staff development goals and objectives (p. 105):

Program Subject Area: Least Restrictive Alternative Schooling for the Handicapped

Goal 2: To adapt standardized grading procedures for "mainstreamed" students.

Goal 3: To identify and develop alternative teaching strategies.

Goal 4: To assess materials and equipment needs for "mainstreaming."

Goal 6: To enhance teacher attitudes toward changes in programming for handicapped students.

Goal 7: To enhance community awareness of and involvement in special programs.

Site-specific objectives were:

1. Springfield staff participants will increase knowledge of the academic characteristics of handicapped students.

2. Participants will increase understanding of, and sensitivity for, the behaviors of handicapped students.

3. Participants will increase understanding of the behaviors of parents of handicapped students.

4. Participants will familiarize themselves with the content of, and procedures related to, federally-mandated IEP's.

5. Participants will utilize alternative activities for working with "mainstreamed" students.

The instructor was Martha E. Carroll, Associate Professor, Department of Special Education.

Testing Course. The testing course addressed the following staff development goals and objectives (pp. 92, 94-95):

Program Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Reading

Goal 5: To assist teachers in understanding and developing diagnostic-prescriptive techniques.

a. To interpret data provided by reading teachers.

b. To examine various assessment systems for individualizing instruction.

c. To learn techniques for developing irformal reading activities.

Program Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Mathematics

Goal 7: To develop more evvective placement procedures.

a. To examine standardized tests that could be used to predict success in high school math and relate information to students.

b. To get better program information available for students, parents, and faculty.

Goal 8: To develop an evaluation process, including use of standardized tests, pre- and post-tests and other teacher-developed materials.

a. To identify by pre-test mathematical computative skills mastered.

b. To identify by post-test mathematical computative skills not mastered.

c. To select standardized tests to be used.

d. To establish goals and outcomes for mathematical understandings.

Site-specific objectives were:

1. Springfield participants will compute descriptive statistics (mean, median, mode, range, standard deviation) for a set of test scores.

2. Participants will interpret selected norm-referenced test scores, including stanines, percentiles, standard scores and grade equivalents.

3. Participants will compare norm-referenced and criterion-referenced tests in terms of purpose and item characteristics.

4. Participants will define content validity, criterion-related validity, and construct validity and list the kind of evidence that supports each of these types of test validity.

5. Participants will explain how reliability coefficients can be found through the following methods: test-retest, parallel forms, split-half, and the Kuder-Richardson measure of internal consistency.

6. Participants will interpret test scores in light of test unreliability, i.e., using the standard error of measurement.

7. Participants will explain how to design tests using a table of specifications or objectives.

8. Participants will identify the taxonomic (Bloom et al) level of various instructional objectives.

9. Participants will identify strengths and weaknesses of essay and objective item formats.

10. Participants will explain the issues that are involved in current testing controversies, such as minimum competency testing.

11. Participants will design a test, administer and score that test, item analyze the results, and make recommendations for revision.

12. Participants will explain personal test taking characteristics (response styles and testwiseness) that may affect test scores.

13. Participants will explain characteristics of the test setting (e.g., separate answer sheets, paractice) that may affect test scores.

14. Participants will compare commonly used affective scales in terms of validity and ease of construction.

15. Participants will list practical applications that can be incorporated into routine classroom testing (e.g., ways to improve the reliability of scoring exams, ways to increase the range of cognitive levels on test items).

The instructor was Stephen Jurs, Professor and Chairman, Department of Educational Research and Measurement.

Workshops. During the fall, school workshops were offered at two building sites. They were the following at the respective schools:

1. "Computer-Managed Diagnostic/Prescriptive Strategies in Math (all Elementaries);

2. "Reading in the Content Areas" (Junior High and High School).

In addition, a district-wide, university credit "workshop" for which initial participant training and planning sessions were conducted during Summer,

1981, was continued throughout the fall. The "workshop" title is "Individualizing Schooling for Children and Youth."

Elementary Workshop. The Elementary workshop addressed the following staff development goal and objectives (pp. 92, 95-96, 98, 101):

Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Mathematics

Goal 1: To help students master basic skills.

Goal 9: To develop an "on-going and continuous" record-keeping system.

a. To define or categorize the various areas of the math program.

b. To construct a record keeping form for K-12 which can be utilized and passed on each year to include all areas of the math program as identified in objective above.

c. To develop instruments of evaluation for each area of the mathematics program.

Goal 11: To develop teachers' diagnosis-prescription skills.

a. To identify the various areas of the mathematics program.

b. To construct instruments to show a student's strengths or weaknesses in each identified area.

c. To develop procedures for teachers to follow in helping students strengthen weak areas.

d. To develop a list of activities for teachers and students to assist in improving weak areas.

Goal 15: To improve articulation and communication among grade levels.

a. To develop an on-going and continuous math record keeping system K-12.

b. To allocate appropriate in-service time by departments K-12 in order to set up individual and departmental goals and objectives, mid year modification, and year-end evaluation.

Subject Area: School Climate

Goal 6: To improve communication among schools regarding the scope and sequence of instruction and student progress.

a. To compile and distribute academic scope and sequence information.

b. To design and implement a skill/progress reporting system.

Site-specific objectives for the respective workshop sessions were:

1. Springfield participants will familiarize themselves with resource reports available from the computer.

2. Participants will increase ability to analyze and use computer print-out data.

3. Participants will increase skills in recognizing types and patterns of student errors.

4. Participants will identify guidelines for self-evaluation of my mathematics program/instruction.

5. Participants will perceive a need for grouping students for grouping students for mathematics instruction.

6. Participants will obtain information about options for instructional grouping.

7. Participants will cite examples for problem-solving in mathematics.

Consultants were Thomas C. Gibney, Professor and Director, Division of Curriculum and Instruction, UT, and Claire L. Jacobi, Director of Instruction and Personnel, Springfield.

Junior High/High School Workshop. This workshop addressed the following staff development goals and objectives (pp. 91-92):

Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Reading

Goal 2: To promote greater student reading achievement in comprehension, including comprehension in subject texts.

a. To identify those skills necessary to develop a hierarchy of comprehension skills.

b. To assess students' strengths and weaknesses regarding those skills.

c. To design techniques that aide the teacher to teach the skills.

Goal 3: To improve study skills that meet the needs of students.

a. To examine methods of formalized study.

b. To create materials to adapt to the learning needs of the students in each study skills area.

c. To adapt those materials objectively to the grade level curriculum area.

Goal 4: To individualize instruction.

a. To match appropriate learning activities and materials to reading objectives and student needs.

b. To develop a resource file of learning activities.

Goal 5: To assist teachers in understanding and developing diagnostic-prescriptive techniques.

a. To interpret data provided by reading teachers.

b. To examine various assessment systems for individualizing instruction.

c. To learn techniques for developing informal reading activities.

Site-specific objectives for the respective workshop sessions were:

1. Springfield participants will identify a teacher checklist for selecting reading materials.

2. Participants will demonstrate the Fry readability formula.

3. Participants will demonstrate the cloze procedure for selecting reading materials.

4. Participants will demonstrate an informal reading inventory for assessing reading.

5. Participants will provide techniques for teaching reading vocabulary in my content area.

6. Participants will provide opportunities to develop reading - related classroom activities.

The consultant was Mary Jo Henning, Professor and Chairperson, Department of Secondary Education.

District-wide "Workshop." This workshop addressed the following staff development goals and objectives (pp. 91-92, 94-96, 100-102):

Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Reading

Goal 4: To individualize instruction.

a. To match appropriate learning activities and materials to reading objectives and student needs.

b. To develop a resource file of learning activities.

Goal 5: To assist teachers in understanding and developing diagnostic-prescriptive techniques.

a. To interpret data provided by reading teachers.

b. To examine various assessment systems for individualizing instruction.

c. To learn techniques for developing informal reading activities.

Program Subject Area: Basic Skills/Diagnostic-Prescriptive Instruction in Mathematics

Goal 6: To update teachers' knowledge and use of instructional skills and techniques.

a. To assess the needs of the staff to determine the levels and areas of training that should be provided, specific topics (i.e., decimals, etc.).

b. To explore through area universities and program developers the kinds of experience they can provide (workshops).

c. To develop follow-up evaluations to determine the value of the workshops.

Goal 7: To develop more effective placement procedures.

a. To examine standardized tests that could be used to predict success in high school math and relate information to students.

b. To get better program information available for students, parents, and faculty.

Goal 11: To develop teachers' diagnosis-prescription skills.

a. To identify the various areas of the mathematics program.

b. To construct instruments to show a student's strengths or weakness in each identified area.

c. To develop procedures for teachers to follow in helping students strengthen weak areas.

d. To develop a list of activities for teachers and students to assist in improving weak areas.

Subject Area: School Climate

Goal 5: To improve home-school relations.

a. To establish active and continuous community involvement with the Springfield schools.

b. To establish effective communication between individuals, groups, and organizations and the Springfield schools.

c. To establish effective home-school-community communication.

d. To provide increased opportunities for parents to participate in school decision-making process.

e. To involve citizens in the planning, implementation, and evaluation of school programs and projects.

f. To offer programs designed to increase community understanding of school procedures, processes and issues.

g. To provide opportunities for parents to analyze and discuss present and future school problems.

Goal 8: To develop a humanistic attitude among staff toward peers, students and community.

a. To implement better communication within the school district, i.e., staff bulletins, superintendent's reports, school quarterly bulletins.

b. To involve parents through organizations such at P.T.O., Boosters, Band Parents, etc.

c. To hold in-service for staff development in dealing with students' attitudes in a changing society.

Site-specific workshop objectives were:

1. Springfield participants will display effective team planning skills, including appropriate attending behaviors.

2. Participants will identify instructional aids for working with some "mainstreamed" students.

3. Participants will identify strategies for organizing time and resources for individualizing instruction.

4. Participants will enhance awareness of their own teaching/ learning styles.

5. Participants will demonstrate use of objectives and pre-assessment data for planning instruction.

6. Participants will demonstrate appreciation of teacher attitudes necessary for effective individualization.

Workshop consultants included:

The University of Toledo

John F. Ahern, Professor, Department of Elementary and Early Childhood Education.

Thomas C. Gibney, Professor and Director, Division of Curriculum and Instruction.

James R. Gress, Associate Professor, Department of Elementary and Early Childhood Education.

Dwayne L. DeMedio, Associate Professor, Department of Secondary Education.

Ronald D. Price, Assistant Professor, Department of Special Education.

Outside

Cindy Biglin and Maryinette Hipp, Teachers, Glendale-Feilbach School, Toledo.

Lee T. Peterson, Professor of Education, Youngstown State University.

Gregory Caras, Principal, Longfellow IGE Elementary School, Dayton, Ohio.

Claire L. Jacobi, Director of Instruction and Personnel, Springfield Local Schools.

Additional workshop information is included in "Preliminary Report of the Summer-Fall, 1981 Workshop 'Individualizing Schooling for Children and Youth'," (July, 1981).

Participation. About seventy-five percent of the Springfield staff participated in fall staff development activities, including the two courses, two building workshops, and fall follow-up for the district workshop. Courses met for ten three-hour sessions; workshops met for three or four two hour sessions.

Excluding the project interns, LEA staff participated in fall courses, participated in building workshops, and participated in institute follow-up activities as follows:

Course	Total	Central Office	Crissey	Dorr St.	Holland	Junior High	High School
"Mainstreaming"	38	-	-	-	-	-	-
Educational Testing	28	-	-	-	-	-	-
Workshop							
Elementary/Mathematics	88	1	18	30	39	-	-
Secondary/Reading	90	1	-	-	-	34	55
"Individualizing Schooling for Children and Youth"	32	3	1	4	9	10	5

Assessment Procedures

Assessment instruments were designed to provide feedback from course and workshop participants. The "feedback" format that was utilized to date.

Each instrument included a number of Likert-type agreement-disagreement items related to identified criteria as well as provisions for other comments and observations. Course and workshop participant feedback instruments included (1) items related to specified site-specific course and workshop objectives and (2) items related to overall course and instructor/consultant considerations. Respondents for each also were asked to identify course and workshop elements subsequently incorporated into classroom teaching. Feedback was then collected during the week of December 7th.

Tables 1 through 4 display tabulations and summary comments in response to the instruments utilized (see Attachment).

Findings and Conclusions

Examination of the tabulated data reveals the following:

1. On the average, course participants "mostly agreed" that, in both instances, site-specific objectives were accomplished.

2. Participants in the "mainstreaming" course noted, in particular, a greater awareness of the diverse needs of handicapped students and greater understanding of school procedures related to PL 94-142 and its Ohio counterpart.

3. Participants in the testing course developed, in particular, more skill for using and interpreting standardized tests as well as for constructing teacher-made tests.

4. Workshop participants achieved most instructional objectives.

5. Elementary workshop participants weren't entirely positive in their responses. In particular, many disagreed that workshop activities were interesting, and many failed to see advantage in the computer-management system.

6. Secondary wrokshop participants acquired renewed enthusiasm in general.

One hundred percent of the Springfield professional personnel was involved in the staff development program in the Fall Quarter. About fifty percent earned university credit. Others may have been active in some additional ways, but they were not registered for courses or workshops.

All course and workshop syllabi, as well as course evaluation instruments and summary sheets, are available in the Teacher Corps Office.

Attachment

TABLE I. COURSE FEEDBACK -- Alternative Education Programs for "Mainstreamed" Children and Youth. (N=15)

Item	N Frequency 6	5	4	3	2	1	X̄
1. The course increased my knowledge of the academic characteristics of handicapped students.	3	7	3	-	1	1	4.53
2. The course increased my understanding of, and sensitivity for, the behaviors of handicapped students.	3	9	1	1	-	1	4.73
3. The course increased my understanding of the behaviors of parents of handicapped students.	1	2	8	2	-	2	3.73
4. The course familiarized me with the content of, and procedures related to, federally-mandated IEP's.	2	9	2	1	1	-	4.67
5. The course provided alternative activities for working with "mainstreamed" students.	3	6	6	-	-	-	4.80
6. Overall, the course provided some useful information.	4	6	4	-	1	-	4.80
7. Overall, course activities were interesting.	1	7	5	1	1	-	4.40
8. The instructor was competent.	7	7	-	1	-	-	5.40
9. The instructor was well-organized.	6	8	-	1	-	-	5.67
10. The course helped me in my teaching.	1	7	4	-	2	1	3.33

Most Important "Lessons Learned"

That information that is needed to help "special kids" can be found if you search long enough in their school records. What a lot of the technical terminology means.

About IEP's.

How to teach math and spelling lessons.

Reading problem determination, spelling problem determination.

We need to have many skills and activities for many students in our school system and possibly we are not meeting those needs. We have many teachers in our system who want to improve their skills to help a wide range of students.

Being made aware of obstacles handicapped children have to work with.

Sensitivity towards students needs, some simple ways to help students, I realized that their actions that drive a teacher nuts are to be expected from lower ability students.

That adaptives can be made for any class/subject, the importance of an IEP talked out properly, and problems that children experience in math and why.

Alerted me to the fact that fellow teachers are having the same concerns. Some new ideas for math instruction.

Classroom Applications

Understanding some of the procedures that will work with special education children.

Ideas from other teachers -- sharing of projects. Reading the handouts from Dr. Carroll, more awareness of needs of handicapped.

Made more aware of types of problems children have.

Help me be more receptive to students with special problems.

Recognize visual and auditory learners; "new" ways to cope with parents who have children tested. Good suggestions on recognizing <u>why</u> children make writing and spelling errors.

Refreshed some ideas I put aside. I am always glad to see Elementary, Jr. High and Senior High Teachers work together plan together for the benefit of the school program.

Awareness that all don't learn in the same way.

Made me aware of other avenues to pursue when someone is having difficulty in class the value of IEP's and concepts of math.

It has given me some new things to think about in regards to this area.

TABLE 2. COURSE FEEDBACK -- Using Educational Testing in the Classroom (N=14)

Item	N Frequency 6	5	4	3	2	1	$\bar{X}$
The course helped me:							
1. Compute descriptive statistics (mean, median, mode, range, standard deviation) for a set of test scores.	8	3	2	-	-	-	5.50
2. Interpret selected norm-referenced test scores, including stanines, percentiles, standard, scores and grade equivalents.	5	8	1	-	-	-	5.29
3. Compare norm-referenced and criterion-referenced tests in terms of purpose and item characteristics.	5	7	1	1	-	-	5.14
4. Define content validity, criterion-related validity, and construct validity and list the kind of evidence that supports each of these types of tests validity.	6	5	3	-	-	-	5.21
5. Explain how reliability coefficients can be found through the following methods: test-retest, parallel forms, split-half, and the Kuder-Richardson measure of internal consistency.	6	3	5	-	-	-	5.07
6. Interpret test scores in light of test unreliability, i.e., using the standard error of measurement.	4	4	5	1	-	-	4.79
7. Explain how to design tests using a table of specifications or objectives.	8	6	-	-	-	-	5.57
8. Identify the taxonomic (Bloom et al) level of various instructional objectives.	7	5	1	1	-	-	5.29
9. Identify strengths and weaknesses of essay and objective item formats.	8	4	2	-	-	-	5.43
10. Explain the issues that are involved in current testing controversies, such as minimum competency testing.	8	4	2	-	-	-	5.43

Item	N Frequency 6	5	4	3	2	1	$\bar{X}$
11. Design a test, administer and score that test, item analyze the results, and make recommendations for revision.	8	6	-	-	-	-	5.57
12. Explain personal test taking characteristics (response styles and test- wiseness) that may affect test scores.	7	7	-	-	-	-	5.50
13. Explain characteristics of the test setting (e.g., separate answer sheets, practice) that may affect test scores.	7	4	3	-	-	-	5.29
14. Compare commonly used affective scales in terms of validity and ease of construction.	5	5	4	-	-	-	5.07
15. List practical applications that can be incorporated into routine classroom testing (e.g., ways to improve the reliability of scoring exams, ways to increase the range of cognitive levels on test items).	6	3	5	-	-	-	5.07
16. Overall, the course provided some useful information.	7	4	3	-	-	-	5.29
17. Overall, course activities were interesting.	5	6	2	1	-	-	5.07
18. The instructor was competent.	12	-	1	1	-	-	5.64
19. The instructor was well-organized.	11	2	-	1	-	-	5.64
20. The course helped me in my teaching.	4	3	6	1	-	-	4.71

Most Important "Lessons Learned"

Use teacher made tests rather than company made tests.

Understanding information found on standardized tests and why certain testing formats are better than others.

Test construction and analyzing and interpreting test results.

Specific objectives, project usefulness and info on reliability and validity for future use.

Facts about minimum competency testing.

Interpreting standardized test scores. Making teacher-made tests. Not to put heavy emphasis on all test scores.

Worksheets are an important part of review and learning. Group work helps the learning process. Test over shorter intervals of time. Organized teacher notes help students organize thoughts. My thoughts and feelings about standardized tests and achievement test are more clearly identified in my mind as is how to construct a test that meets my objectives.

How to determine content validity, how to determine discrimination and difficulty and what flaws to avoid in making out tests.

Criterion-related/norm-referenced conparisons test construction and understanding of statistical measurements given in testing manuals.

Classroom Applications

I've become more aware of the multiple-choice type test which I feel is much better to give as opposed ~~to T or F or Essay.~~

Being able to take a test and decide if it tested what I wanted. How to do an item analysis.

Clearer objectives, to start with, mean a better finish in test results. So, knowing what I definitely want to teach and emphasize ahead of time will give me guidance in my instruction. I'll certainly think twice when I'm constructing a test, e.g., type of test which suits my purpose, item "pitfalls" to avoid, etc. Doing an item analysis is quite valuable to a test's validity and reliability. It's time consuming, but it's rewarding to both teacher and student.

Specific objectives, project usefulness and info on reliability and validity for future use.

How to interpret test scores and how to design, administer and score a test.

Interpreting standardized test scores. Making teacher-made tests. Not to put heavy emphasis on all test scores.

Whatever I learned from this course I feel I really taught myself! This course refreshed my mind as to the frustrations and stress a student may feel. It has helped me to be more aware of the test items and ways to help me construct a good measurement of testing.

Help to construct and evaluate my own tests. Help me interpret standardized test scores.

Preparation and analysis of tests.

TABLE 3. WORKSHOP FEEDBACK -- Elementary Schools/Computer-Managed Diagnostic/ Prescriptive Strategies in Mathematics (N=32)

Items	N Frequency 6	5	4	3	2	1	NR	$\bar{X}$
1. The workshop familiarized me with resource reports available from the computer.	4	10	8	4	5	1	-	4.03
2. The workshop increased my ability to analyze and use computer print-out data.	4	4	10	5	5	4	-	3.53
3. The workshop increased my skill in recognizing types and patterns of student errors.	2	8	7	5	5	5	-	3.44
4. The workshop provided guidelines for self-evaluation of my mathematics program/instruction.	1	6	11	3	6	5	-	3.31
5. The workshop demonstrated a need for grouping students for mathematics instruction.	3	9	15	2	1	2	-	4.16
6. The workshop provided information about options for instructional grouping.	2	2	15	5	5	2	1	3.52
7. The workshop provided examples for problem-solving in mathematics.	5	7	11	3	3	3	-	4.16
8. Workshop activities provided some useful information.	4	6	9	3	4	5	1	3.61
9. Workshop activities were interesting.	1	5	5	8	5	8	-	2.91
10. The university consultant was competent.	9	12	3	6	2	-	-	4.63
11. The university consultant was well-prepared.	8	11	8	2	2	1	-	4.56
12. The university consultant was interesting.	3	7	8	6	5	3	-	3.63
13. The district consultant was competent.	2	12	6	2	2	1	7	4.28
14. The district consultant was well-prepared.	2	11	8	1	2	1	7	4.52
15. The district consultant was interesting.	1	9	7	4	2	3	6	3.77

Item	N Frequency 6	5	4	3	2	1	NR	X
16. The workshop helped me in my teaching.	1	7	5	6	1	10	2	3.03

Classroom Applications

I found the workshop a repeat of the spring math workshop at Dorr. The calculator activities were the same as prior sessions. I did not find it helpful in my teaching, as it did not cover actual methods and sequence of problem solving--only that teachers should give problems with words and numbers.

None.

Workshop was geared mostly for the intermediate grades. It had little interest for the primary grades, since they had not done any testing at that time. The strongest point stressed was a need to group students for instruction.

Everything that was stressed was what most people already know. I know kids need grouped. I've been analyzing student errors for years. To spend an inordinate amount of time on things teachers have been doing for years is somewhat insulting.

Not much value for 1st grade teachers who will not use computer until at least January.

A lot of what the T.U. prof. talked about is rehashing of material I received as an undergrad. The 2nd session was better-- more hands on activities --than the first lecture-type workshop. I think the two could've been combined into 1 session.

After I receive the computer results of a unit test, I analyze them, and give those students having difficulty in some areas more attention and individualized help. One thing that would help me as a teacher do a better job in the area of math instruction would be if we had more sources to draw from for remediation. I use all of the Houghton Mifflin material I can to teach my low group.

We finally had an opportunity to discuss grouping among our grade level teachers. We just don't have time to communicate except in a hurry hurry. Very frustrating. The workshops, as far as Tom Gibney, was a basic waste of time.

Who was that district consultant?

Uncertain who the "district consultant" is. I was happy to hear the suggestions of ways of teaching that were not "textbook" oriented. I'm happy to see that math can be "fun" and not always a "task."

I won a workbook (Math) that I've enjoyed using. Interesting to see how teachers from other schools were using the computer program, and their input was helpful!

TABLE 4. WORKSHOP FEEDBACK -- Secondary Schools/Reading in theContent Areas (N=24)

Item	N Frequency 6	5	4	3	2	1	NR	$\bar{X}$
1. The workshop identified a teacher checklist for selecting reading material.	5	9	7	-	1	-	2	4.77
2. The workshop demonstrated the Fry readability formula.	11	11	1	-	-	-	1	5.95
3. The workshop demonstrated the cloze procedure for selecting reading materials.	10	8	5	-	-	-	1	5.21
4. The workshop demonstrated an informal reading inventory for assessing reading.	10	10	3	-	-	-	1	5.30
5. The workshop provided teachniques teaching reading vocabulary in my content area.	4	2	11	4	2	-	1	4.09
6. The workshop provided opportunities to develop reading - related classroom activities.	5	5	10	2	-	-	2	4.59
7. Workshop activities provided some useful information.	1	9	10	2	-	-	2	4.41
8. Workshop activities were interesting.	-	4	14	3	1	-	2	4.14
9. The university consultant was competent.	7	14	1	-	-	-	2	5.27
10. The university consultant was well-prepared.	9	10	3	-	-	-	2	5.27
11. The university consultant was interesting.	4	11	6	1	-	-	2	4.82
12. The workshop helped me in my teaching.	2	5	13	1	1	-	2	4.27

Classroom Applications

Able to determine readability of text.

This session took too much time to really be a good use of our in-service day. Content was good and useful but it could have been condensed into a couple of hours and I feel more effective. Too many teachers did not apply themselves and many were just not participating. Have dept. sit together and work together to be more effective. I liked the ideas that I came away with - but again - the time element was too long. We could have had two sesisons on different areas instead of just one. It's important and should definitely be considered!

Thanks for the good thoughts I received.

I had several hours of time to use to prepare Study Guides for use in my classes. This was most helpful.

By preparing a sample assignment. By checking (guessing) words that were left out in every 5th word.

Gave an understanding to realize that some materials are beyond the capacity of students. Gave methods for finding out if material was too difficult for students.

Something was lacking!! Not sure what? Why are we just doing this now?? This was a long time ago. I was upset that all staff members did not show - some left early.

Judge selections of new texts. How to help with vocabulary.

I've had the reading course so it was review for me.